IN THE CLAIMS

1. (Original)A sensing device comprising: a cantilever disposed with a medium which is movable relative to the cantilever; and a device associated with one of the cantilever and the medium which is responsive to changes in electrical field between the medium and the cantilever caused by a distance between the medium and the cantilever changing.

2. (Original)A sensing device as set forth in claim 1, wherein the cantilever comprises a probe which extends from the cantilever and contacts a surface of the medium having a topography that causes the distance between the cantilever and the medium to vary.

3. (Original)A sensing device as set forth in claim 1, wherein the device is a FET (Field Effect Transistor).

4. (Original)A sensing device as set forth in claim 1, wherein the device is an induced channel FET (Field Effect Transistor).

5. (Original)A sensing device as set forth in claim 3, wherein the medium is electrically non-conductive and is supported on a substrate which is electrically conductive, and wherein the substrate is circuited with the FET so that variations in the electrical field which result from a change in distance between the medium and the cantilever, induces a change in electrical current passing through the FET and produces a read signal.

6. (Original)A read mechanism used in a contact atomic resolution storage system, comprising: a cantilever disposed with an electrically non-conductive medium which is movable relative to the cantilever, the cantilever having a probe which follows a topography of the medium; and a device formed in the cantilever which responds to a change in electric field induced by a change in distance between the cantilever and a substrate on which the medium is supported.

7. (Original)A read mechanism as set forth in claim 6, wherein the device is a FET (Field Effect Transistor).

8. (Original)A read mechanism as set forth in claim 6, wherein the device is an induced channel FET (Field Effect Transistor).

9. (Original)A read mechanism used in a contact atomic resolution storage system, comprising: a cantilever disposed with a medium which is movable relative to the cantilever, the cantilever having a probe extending from the cantilever and in contact with a surface of an electrically conductive medium to follow changes in a data indicative topography of the medium;

a circuit which establishes an electrical connection between the cantilever and substrate on which the media is supported, and generates an electric field in a gap between the cantilever and the medium; and a device associated with the cantilever which is responsive to changes in the electric field in the air gap.

10. (Original)A read mechanism as set forth in claim 9, wherein the device is a FET (Field Effect Transistor).

11. (Original)A read mechanism as set forth in claim 9, wherein the device is an induced channel FET (Field Effect Transistor).

12. (Original) A method of using a sensing device comprising: moving a probe supported on a cantilever relative to a medium that has a data indicative topography followed by the probe, the medium being associated with a substrate producing an electric field; and sensing the change in distance between the cantilever and the medium using a change in current flowing through a FET (Field Effect Transistor) formed in the cantilever, wherein the change in current is induced by a change in electric field between the substrate and the FET.

13. (Original)A method as set forth in 12, further comprising using the change in electric field to sense the presence of a bit of data which is written into the medium.

14. (Original)A method as set forth in 13, further comprising using the data bit sensing in a mass storage device.

15. (Withdrawn)A method of using a sensing device comprising: forming a FET in a first structure; generating an electric field in a second structure which is movable with respect to the first structure; and gating the FET using the electric field produced by the second structure and produce a signal indicative of the amount of separation between the first and second structures.

16. (Withdrawn)A method as set forth in claim 15, further comprising: controlling the relative position between the first structure and the second structure; and sensing data stored on the second structure using the signal indicative of the amount of separation between the first and second structures.

17. (Withdrawn)A method as set forth in claim 15, comprising using the device as a microphone.

18. (Withdrawn)A method as set forth in claim 15, further comprising using the device as an acceleration sensor.

19. (Withdrawn)A method as set forth in claim 15, further comprising using the device as a pressure sensor.

20. (Withdrawn)A method as set forth in claim 15, further comprising using the device in a position control system.

21. (Withdrawn)A method of making a sensing device comprising: forming a cantilever; forming a FET (Field Effect Transistor) in the cantilever; forming an electrically non-conductive probe on the cantilever; and adapting the probe to follow a topography of a medium which is movable relative to the probe and which is associated with a substrate which is adapted to produce an electric field which acts as a gate for the FET.

22. (Withdrawn)A method as set forth in claim 21, further comprising: forming the medium of a thermoplastic electrically non-conductive material; forming the medium on the substrate; and forming the substrate of an electrically conductive material

23. (Withdrawn)A method as set forth in claim 21, comprising forming the FET with a channel.

24. (Withdrawn)A method as set forth in claim 21, comprising forming the FET as a induced channel FET.

25. (Withdrawn)A method as set forth in claim 21, further comprising connecting the medium to a drive which moves the medium with respect to the probe.

26. (Original)A sensor device comprising: a cantilever; a medium which is movable with respect to the cantilever; electric field generation means disposed with a first of the cantilever and the medium for producing an electric field between the medium and the cantilever; and FET sensing means disposed with a second of the cantilever and the medium for responding to changes in an electric field induced by a change in clearance between the medium and the cantilever.

27. (Original)A sensor device as set forth in claim 26, further comprising probe means for detecting a data indicative topography of the medium and controlling the change in clearance between the cantilever and the medium.